

The Future of Opioid Prescribing: Implementation of a Virtual Opioid & Pain Management Module for Medical Students

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Background

Overview

- In 2018, **46,802 overdose deaths** (69.5% of all drug overdose deaths) in the U.S. were attributed to opioids: **prescription opioid** overdoses comprised almost **32%** of these deaths
- After a **single day's** consumption of an opioid prescription, the rate of **persistent opioid use** is **6%** at **one year** and **13.5%** if prescription duration reaches a minimum of **seven days**
- Medical schools **lack** standardized curricula and qualified faculty to teach safe **opioid prescribing and pain management** concepts
- Studies show that graduating students feel **unprepared to prescribe opioids**

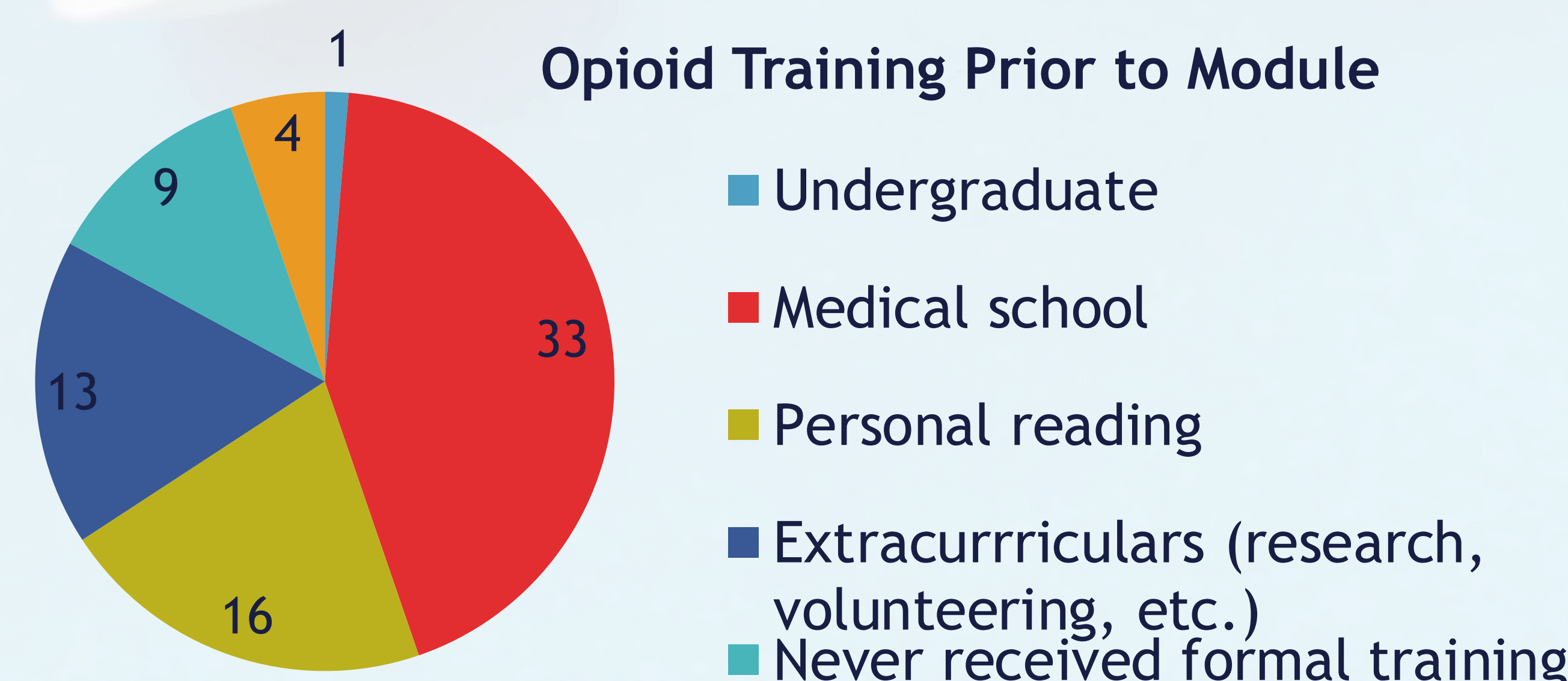
Goal: Assess the impact of an interactive opioid and pain management module on graduating medical students

Methods

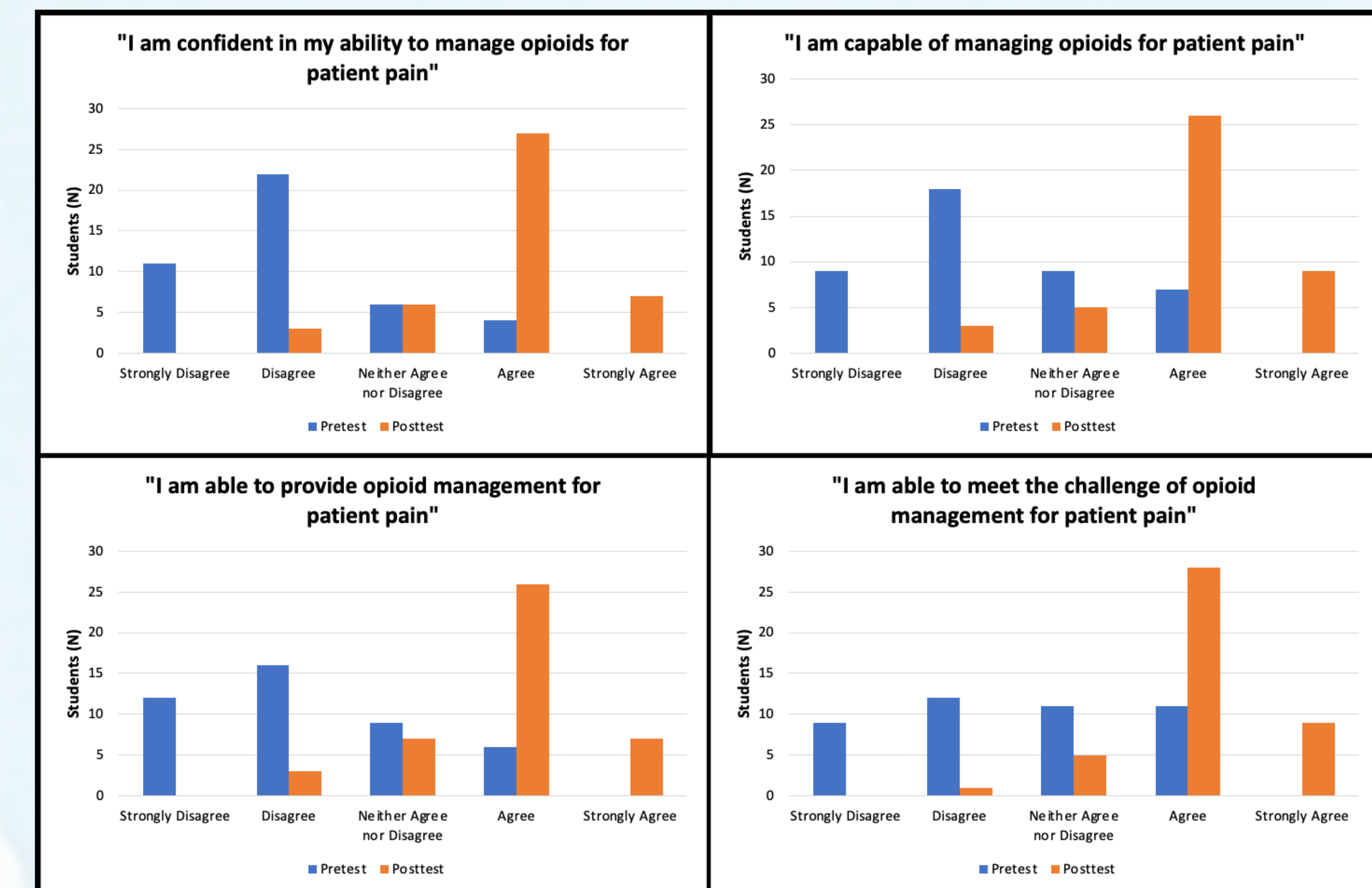
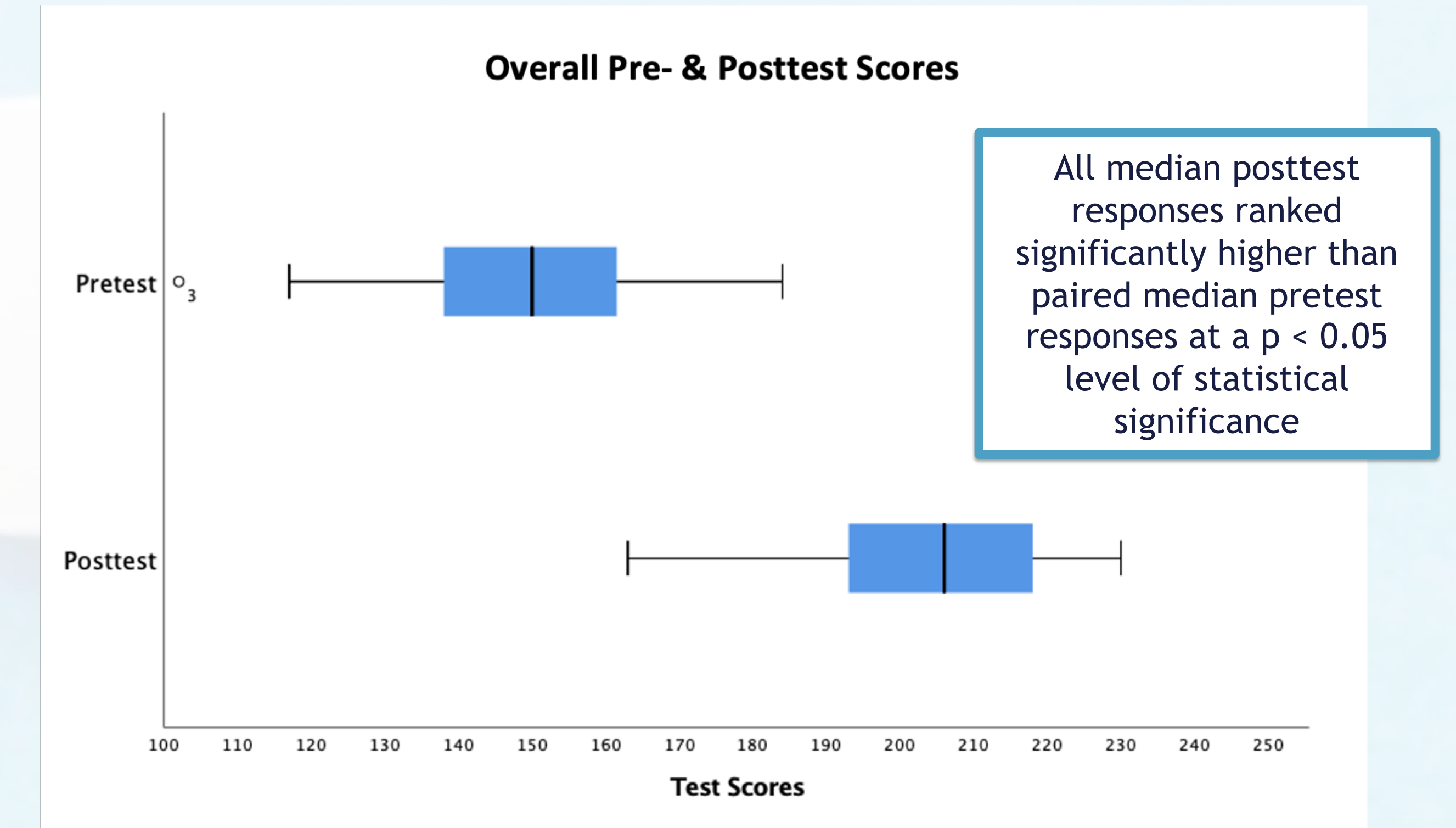
- 4th-year medical students** from Sidney Kimmel Medical College at Thomas Jefferson University invited to the complete module (n = 43 recruited)
- Topics introduced through an interactive **case-based learning** system to simulate **clinical decision-making**
- 8 patient cases followed by intern-level case vignettes → cases designed **sequentially** for concept reinforcement
- Performance assessed through identical **pre- and posttest** utilizing Likert scale designed to measure **knowledge, attitudes, and competency**
- Perceived Competence Scale questions modified to measure **Self-Determination Theory** constructs
- Pre- and posttest changes analyzed using **Wilcoxon matched pairs signed-rank test** in SPSS v.25

Module Content

Patient Case	Learning Objectives
<ul style="list-style-type: none"> 85-year-old woman with advanced dementia and joint pain from osteoarthritis 	<ul style="list-style-type: none"> Pain assessment and management complexities in older adults
<ul style="list-style-type: none"> 61-year-old man with low back pain and depression 	<ul style="list-style-type: none"> Chronic pain treatment, proper opioid disposal practices to prevent diversion, and the role of mood disorders in chronic pain outcomes
<ul style="list-style-type: none"> 49-year-old man with shoulder pain on chronic opioid therapy 	<ul style="list-style-type: none"> MME conversions, key principles for initiating and modifying opioid treatment, and the role of co-prescribing naloxone
<ul style="list-style-type: none"> 31-year-old woman with trauma injuries and a history of opioid use disorder 	<ul style="list-style-type: none"> Medication-assisted treatment and challenges of acute pain management in patients with opioid tolerance
<ul style="list-style-type: none"> 42-year-old man with a radial fracture 	<ul style="list-style-type: none"> Postoperative opioid management, common types of outpatient opioid prescriptions, and the role of the PDMP
<ul style="list-style-type: none"> 10-year-old boy with a humerus fracture 	<ul style="list-style-type: none"> Pediatric pain management and medication dosing, and the risks of opioid prescribing in the adolescent population
<ul style="list-style-type: none"> 29-year-old pregnant woman with sickle cell disease on chronic opioid therapy 	<ul style="list-style-type: none"> Safe pain management in pregnancy and postnatal effects of opioids
<ul style="list-style-type: none"> 37-year-old woman with breast cancer 	<ul style="list-style-type: none"> Pain syndromes in cancer survivors and the role of opioids in chronic cancer pain



Results



Conclusions & Implications

A virtual module is effective for improving student preparedness to manage pain in the opioid crisis

We propose:

- Dissemination of a virtual module(s) nationally to supplement curricula and standardize medical student exposure
- Modification and expansion to other healthcare professional schools graduating high-volume opioid prescribers